

REMARKS

In response to the Final Office Action mailed on June 20, 2008, Applicants respectfully request reconsideration. To expedite prosecution of this Application to allowance, Applicants submit the following amendments as well as remarks discussing patentability of rejected claims.

Applicant encourages the Examiner to call the undersigned Attorney to discuss any issues of patentability to expedite prosecution of this application towards allowance.

Rejection of Independent Claims

Claim 55 has been rejected under 35 U.S.C. §103(e) as being unpatentable over Heitman et al., U.S. Patent No. 6,920,494 (hereinafter Heitman) in view of Miyake (U.S. Publication 2004/0064545).

To expedite prosecution of the pending claims to allowance, the limitations of claim 55 have been amended into claim 1. No new matter has been added to the claim 1 other than to include the limitations of claim 55; thus there is no need for the Examiner to do any additional searches. In other words, the scope of amended claim 1 is the same as previously pending claim 50.

Applicants respectfully submit that amended claim 1 includes distinguishing limitations over the cited prior art. For example, claim 1 now recites:

displaying a physical network topology associated with the storage area network on a display screen, the physical network topology including identification of at least one switch resource that supports connectivity among host resources and storage resources in the storage area network;

receiving a signal indicating a selected at least one managed resource associated with the storage area network; and

displaying a virtual network topology associated with the selected at least one managed resource in relation to the physical network topology;

displaying a symbol representing a zone of the storage area network; and

in response to receiving selection of the symbol, marking the physical network topology to indicate ports of the at least one switch resource in the physical topology that make up the zone.

Applicants have reviewed the rejection for claim 55 and respectfully submit that amended claim 1 includes limitations not taught or suggested by the cited prior art.

For example, the office action concedes that Heitman does not disclose displaying multiple selectable symbols representing zones in a storage area network environment (as in claim 50), especially none in which selection of a respective symbol results in display of a corresponding zone overlaid on a physical topology. However, the office action asserts (for claim 55) that Miyake discloses such a limitation. Applicants respectfully disagree.

The office action asserts that such limitations can be found at paragraph 67, which reads as follows:

[0067] From the physical connection view window 510, a transition can be made to the zone view window 520. The zone view window 520 is used to show and highlight the sub-network nodes that are categorized based on IP switch or Fiber Channel switch devices. This represents one perspective of a type of logical connection within the physical connection according to the configuration of the devices in the system. As shown in the zone view window 520, the zone divided by switches SW1 and SW2 is shown as hatched device icons. (emphasis added)

Merely reciting that a zone can be displayed for viewing is not equivalent to enabling selection (and actually receiving selection) of a symbol representing a zone and thereafter displaying the zone as being overlaid on a physical topology.

The office action asserts that the displayed zone in Miyake is equivalent to the selectable symbol in amended claim 1. Note that the claim further recites a step of receiving selection of the selectable symbol. Applicants respectfully submit that there is no selection of the zone displayed in Miyake. In fact, there is no indication whatsoever that the zone displayed in FIG. 9 is selectable in a manner as recited by claim 1. Accordingly, Applicants respectfully submit that the rejection of amended claim 1 is improper.

Even if the displayed zone in FIG. 9 of Miyake were selectable, Applicants respectfully submit that the rejection is still improper. For example, the office action asserts that Heitman teaches the limitation of selecting the zone (as displayed in Miyake) and then displaying the zone. More specifically, the office action asserts that the limitation of "in response to receiving selection of the symbol, marking the physical network topology to indicate ports of the at least one switch resource in the physical topology that make up the zone" can be found in Heitman at column 45, lines 26-40, which reads as follows:

A more complex scenario than that discussed above arises when multiple adapters of a host are linked via common ports of a fabric element, e.g., a switch. For example, consider a scenario in which scans from a host indicate that its adapters see interconnect fabric switch ports P1-P12, as follows:

Adapter A1 detects ports P1 & P2,

Adapter A2 detects ports P3 & P4,

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Adapter A3 detects ports P5, P6, & P1,

Adapter A4 detects ports P11, P8, P9, P10 & P5,

Adapter A5 detects ports P3 & P12.

Though they do not have any ports in common, adapters A1 and A4 are in the same virtual SAN, since they both can see one or more ports in common with other adapters (e.g., adapter 3). (emphasis added)

Applicants respectfully submit that this passage in Heitman does not disclose the claim limitation of: in response to receiving selection of the symbol (which the office action asserts is the displayed zone in Miyake), marking the physical network topology to indicate ports of the at least one switch resource in the physical topology that make up the zone. There is no selection being performed, nor is there marking of a physical network topology as recited by the amended claim. This passage also has nothing to do with selection of the zone in Miyake (as is asserted by the office action). Instead, this passage only indicates that multiple adapters can be part of the same virtual storage area network. Thus, Applicants respectfully submit that the rejection is improper.

The claimed invention of providing management information as recited by in claim 1 is advantageous because a user can initiate simultaneous display of a physical network topology as well as a virtual network topology of a selected resource such as a zone. Accordingly, a viewer can select a symbol representing a zone and thereafter view the relationship of the selected zone with respect to a physical network topology to more easily manage the storage area network. Neither of the cited references, individually or combined, support such functionality.

Accordingly, Applicants respectfully request allowance of claim 1. If the rejection of claim 1 is to be maintained, Applicants respectfully request that it be pointed out with particularity where the cited prior art discloses or suggests all of the claim limitations as disputed above.

Because claims 2-15 and 56 depend from and further limit claim 1 (and because claim 1 is in condition for allowance), Applicants submit that claims 2-15 and 56 are also in allowable condition.

For applicable reasons as discussed in the reply to the last office action, Applicants respectfully submit that that dependent claims 2, 3, 4, 6, 12, 13, and 14 also include patentable limitations not found in the cited prior art.

Applicants respectfully submit that dependent claim 56 includes further patentable distinctions over the cited prior art. For example, claim 56 recites: "in a separate region than the physical topology, displaying the symbol in a hierarchy of resources associated with the storage area network; and displaying the symbol to include text indicating a corresponding name of the zone." Applicants respectfully submit that neither of the cited prior art references teach or suggest displaying a symbol (corresponding to a zone) in a hierarchy; nor is there mention any teach or suggest that a symbol corresponding to a zone is represented by text present in a hierarchy of resources. Thus, Applicant respectfully requests allowance of dependent claim 56.

For applicable reasons as discussed herein, Applicants respectfully submit that independent claims 16, 42, and 48 are also in condition for allowance. By virtue of dependency, claims 17-21 and claims 43-45 also should be in condition for allowance.

Claim 23 has been rejected under 35 U.S.C. §102 as being unpatentable over Heitman et al., U.S. Patent No. 6,920,494 (hereinafter Heitman).

To expedite prosecution of the pending claims to allowance, the limitations of claim 23 have been amended into claim 22. No new matter has been added to the claim 22 other than to include the limitations of claim 23, thus there is no need for the Examiner to do any additional searches. In other words, the scope of amended claim 22 is the same as previously pending claim 23.

Applicants respectfully submit that amended claim 22 includes distinguishing limitations over the cited prior art. For example, claim 22 now recites:

displaying a physical network topology associated with the storage area network on a display screen, the physical network topology including identification of at least one switch resource that supports connectivity among resources in the storage area network;

receiving input from a user to display at least one virtual network associated with the storage area network; and

displaying a virtual network topology associated with the at least one virtual network in relation to the physical network topology on the display screen; and

wherein displaying the virtual network topology includes displaying specific ports and corresponding identifications of the specific ports of the at least one switch resource associated with the at least one virtual network.

Applicants have reviewed the rejection for claim 23 and respectfully submit that amended claim 22 includes limitations not taught or suggested by the cited prior art.

For example, the office action cites Heitman at column 10, lines 7-16, which reads as follows:

A graphical user interface displays icons for each SAN and divides the topology into submaps, i.e., a screen that contains icons--where double clicking on an icon will show another submap if the icon is not a leaf node. The SAN is divided into several types of segments: a switch segment contains an icon representing an individual switch and the devices directly connected to the switch; a switch port connected to multiple devices is represented by a loop segment. The segment contains an icon for the switch and the devices. (emphasis added)

Merely reciting that a storage area network can be divided into submaps is not equivalent to displaying a virtual network in relation to a physical network as well as labeling specific ports of a switch to indicate the virtual network.

The claimed invention of displaying the specific ports and port identifier information enables a viewer to more easily identify attributes of a respective virtual network overlaid on a physical network. Neither of the cited references, individually or combined, support such functionality. For example, at best, the references only show generic connectivity between resources, not specific ports and corresponding port identifier information.

Accordingly, Applicants respectfully request allowance of amended claim 22. If the rejection of amended claim 22 is to be maintained, Applicant respectfully requests that it be pointed out with particularity where the cited prior art discloses or suggests all of the claim limitations as disputed above.

Because claims 24-26 depend from and further limit amended claim 22 (and because amended claim 22 is in condition for allowance), Applicants submit that claims 24-26 are also in allowable condition.

For applicable reasons that amended claim 22 is allowable, Applicants respectfully submit that amended claim 27 is allowable as well as corresponding dependent claims 30-36.

Claim 50 has been rejected under 35 U.S.C. §103(e) as being unpatentable over Heitman et al., U.S. Patent No. 6,920,494 (hereinafter Heitman) in view of Miyake (U.S. Publication 2004/0064545).

To expedite prosecution of the pending claims to allowance, Applicants have copied limitations of claim 1 into claim 50. No new matter has been added to the claim 50 other than to include the limitations of previously pending claim 1; thus there is no need for the Examiner to do any additional searches. In other words, the scope of amended claim 50 is the same as previously pending claim 50.

Applicants respectfully submit that claim 50 includes distinguishing limitations over the cited prior art. For example, claim 50 recites:

displaying a physical network topology associated with the storage area network on a display screen, the physical network topology including identification of at least one switch resource that supports connectivity among host resources and storage resources in the storage area network;
receiving a signal indicating a selected at least one managed resource associated with the storage area network;
displaying a virtual network topology associated with the selected at least one managed resource in relation to the physical network topology;

displaying an expandable folder in a hierarchical tree, the hierarchical tree including resources present in the storage area network; displaying multiple selectable symbols in the expandable folder, each of the multiple selectable symbols in the folder representing corresponding zones in the storage area network; receiving selection of a given selectable symbol in the folder; and in response to receiving the selection of the given selectable symbol, overlaying a selected zone, as represented by the given selectable symbol, on the physical network topology.

Applicants have reviewed the rejection for claim 50 and respectfully submit that amended claim 50 includes limitations not taught or suggested by the cited prior art.

For example, the office action concedes for claim 50 that Heitman does not disclose displaying multiple selectable symbols representing zones in a storage area network environment, especially none in which selection of a respective symbol results in display of a corresponding zone overlaid on a physical topology. However, the office action asserts that Miyake discloses such a limitation. Applicants respectfully disagree.

The office action asserts that such limitations can be found in Miyake at paragraph 67, which reads as follows:

[0067] From the physical connection view window 510, a transition can be made to the zone view window 520. The zone view window 520 is used to show and highlight the sub-network nodes that are categorized based on IP switch or Fiber Channel switch devices. This represents one perspective of a type of logical connection within the physical connection according to the configuration of the

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devices in the system. As shown in the zone view window 520, the zone divided by switches SW1 and SW2 is shown as hatched device icons. (emphasis added)

Merely reciting that a zone can be displayed for viewing is not equivalent to enabling selection (and actually receiving selection) of a symbol representing a zone and thereafter displaying the zone as being overlaid on a physical topology.

Applicants respectfully submit that Heitman also does not disclose such limitations. Instead, Heitman only discloses that a user can selectively view different attributes associated with a selected resource in tabular form. There is no mention or suggestion in Heitman that selectable symbols representing zones can be viewed and then selected in order to view an overlay of a selected zone on a physical network.

The claimed invention of providing management information as recited by amended claim 50 is advantageous because a user can initiate display of a physical network topology as well as a virtual network topology of a selected resource. Accordingly, a viewer can select a symbol representing a zone and thereafter view the relationship of the selected zone with respect to a displayed physical network topology to more easily manage the storage area network. Neither of the cited references, individually or combined, support such functionality.

Accordingly, Applicants respectfully request allowance of amended claim 50. If the rejection of amended claim 50 is to be maintained, Applicants respectfully request that it be pointed out with particularity where the cited prior art discloses or suggests all of the claim limitations as disputed above.

Because claims 51-54 depend from and further limit claim 50 (and because amended claim 50 is in condition for allowance), Applicant submits that claims 51-54 are also in allowable condition.

Applicants respectfully submit that dependent claims 51-54 include further patentable distinctions over the cited prior art.

For example, claim 52 recites: "utilizing distinctive markings in the hierarchical tree to indicate the selected zone in the folder; and wherein highlighting which portions of the physical network topology represent the selected zone includes: utilizing distinctive markings in the physical network topology to indicate which portions of the physical network topology represent the selected zone from the folder."

This limitation enables a viewer to easily identify which zone symbol was selected from a hierarchical tree as well as a view a corresponding overlay of the corresponding zone in a displayed physical network. Thus, a user can initially view the displayed physical network, select a one or more zones, and then view the selected one or more zones with the displayed physical network. Distinctive highlighting of the selected zones in the hierarchy and corresponding overlaid zones enables the viewer to easily identify which zone selections in the hierarchy correspond to zones in the physical network.

Applicants respectfully submit that there is no teaching or suggestion in either cited reference as FIG. 34 of Heitman only discloses display of data fields and corresponding data associated with a resource selected from a hierarchical tree. There is no indication whatsoever of displaying a physical network and that the resources in the hierarchical tree can represent zones that are selectively overlaid on the displayed physical network. Thus, this portion of Heitman does not teach or suggest the claim limitation.

In other words, the display of data in region 300 of FIG. 34 of Heitman is limited to data only associated with the selected resource from the hierarchy 290. The claimed invention recites a unique way of displaying a combination of display information not taught or suggested by Miyake and/or Heitman. For example, the claimed invention recites overlaying a selected zone (from the hierarchy) onto a displayed physical network. FIG. 34 of Heitman only shows a display of information associated with the selected resource from the hierarchy. In contrast, the claimed invention recites a combination of displaying a physical network and thereafter displaying one or more selected zones on the physical network. Thus, Applicants respectfully requests allowance of dependent claim 52.

Claim 53 recites: "for each additional zone selected from the folder: utilizing distinctive markings in the physical network topology to indicate each additionally selected zone; utilizing distinctive markings in the physical network topology to indicate which portions of the physical network topology represent each additionally selected zone in the folder; and the distinctive markings in the folder and the distinctive markings in the physical network topology enabling a viewer to identify which portions of the physical network topology correspond to different selected zones in the folder." For applicable reasons as discussed above for claim 52 and other claims, Applicants respectively submit that claim 52 is in condition for allowance.

Claim 54 recites: "in response to receiving selection of the given selectable symbol in the folder of the hierarchical tree, initiating expansion of the physical network topology to include additional network resources of the storage area network." Applicants respectively submit that neither of the cited prior art references teach or suggest that selection of a zone in the hierarchical tree causes two outcomes including: i) overlaying of a zone corresponding to the

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selectable symbol over a displayed physical network, and ii) expansion of the physical network. Instead, the cited passage on Heitman merely indicates display of properties associated with a selected object. The claimed invention is useful because it may be necessary to expand the physical network to show the selected zone. In other words, a displayed portion of a physical network may need to be expanded for viewing of a selected zone. Thus, Applicant respectfully requests allowance of dependent claim 54.

Conclusion

Applicant hereby petitions for any extension of time which is required to maintain the pendency of this case. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50-3735.

If the enclosed papers or fees are considered incomplete, the Patent Office is respectfully requested to contact the undersigned Attorney for Applicants at (508) 616-9660 in Westborough, Massachusetts.

Respectfully submitted,

/PPK/

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